

IN THE DRAWINGS

A replacement sheet containing revised FIG. 6 is attached hereto. No new matter has been added.

REMARKS

Reconsideration and withdrawal of all grounds of objection and rejection, and allowance of all the pending claims are respectfully requested in light of the above amendments and the following remarks. Claims 1-4 and 6-13 remain pending herein. Claims 1 and 4 are independent claims.

A replacement FIG. 6 has been submitted herewith which addresses the objections stated in the Office Action. The specification has been amended to refer to the column of the quantity of octets before each data field. No new matter has been added.

The specification has been edited to overcome informalities. However, with regard to spacing, Applicant notes that there are file and field names described in the specification using the underscored spacing between certain words. Applicant respectfully submits that a person of ordinary skill in the art understands such underscored spacing is used to make file, field and variable names more readable when blank spaces are not allowed, and the IEEE EFM Task Force cited by the Examiner also leaves the underscored spacing to portray control messages and data fields in this format.

With regard to the incorporation by reference of the Korean priority document, Applicant respectfully submits that under 35 U.S.C. §119 a claim of priority referring to the priority document is a requirement, and referring to same in the specification is standard practice suggested by the USPTO. In fact MPEP 608.01(p) states that:

Review of Applications Which Are Relied on To Establish an Earlier Effective Filing Date.

The limitations on the material which may be incorporated by reference in U.S. patent applications which are to issue as U.S. patents do not apply to applications relied on only to establish an earlier effective filing date under 35 U.S.C. 119 or 35 U.S.C. 120. Neither 35 U.S.C. 119(a) nor 35 U.S.C. 120 places any restrictions or limitations as to how the claimed invention must be disclosed in the earlier application to comply with 35 U.S.C. 112, first paragraph. Accordingly, an application is entitled to rely upon the filing date of an earlier application, even if the earlier application itself incorporates essential material by reference to another document. See *Ex parte Maziere*, 27 USPQ2d 1705, 1706-07 (Bd. Pat. App. & Inter. 1993).

Accordingly, the incorporation by reference of the priority document is not an attempt to include essential material in a foreign language that has been omitted from the U.S. application and is a standard practice for Applicants who are claiming priority under 35 U.S.C. §119.

Applicant has added Appendix A to the application to a published copy of ITU-T G983.1 from the time of filing of the application to comply with the request for information under 37 C.F.R. §1.105 and assist the Examiner to facilitate prosecution of the application. Applicant has also provided an explanatory paper regarding IEEE 802.3z. However, Applicant respectfully submits that the IEEE 802.3z and ITU-T G983.1 standards are well-known by persons of ordinary skill in the art and these standards are not essential matter requiring inclusion in the application to provide enablement. No new matter has been added. Applicant is filing these items as part of a Supplemental IDS which includes therein, for the Examiner's convenience, a draft standard 802.1ah/D1.0 dated July 17, 2005. Again, Applicant respectfully submits that the documentation for these publicly available standards has been supplied by the Applicant in accordance with the request under 37 C.F.R. §1.105 and that no new matter has been added.

Summary of the Rejections

(1) Claims 1-4 and 6-13 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite.

(2) Claims 3 and 8 stand rejected under 35 USC § 112, 1st paragraph, as allegedly failing to comply with the enablement requirement.

(3) Claims 1-4 and 6-9 stand rejected under 35 USC § 103(a) as allegedly being obvious over Gaglianella (ONU auto discovery, IEEE.2ah Ethernet in the First Mile Task Force, May 2002) in view of Admitted Prior Art (APA) at pages 2 and 3 of the specification.

(4) Claims 10 and 12 stand rejected under 35 U.S.C. §103(a) as allegedly being obvious over Gaglianella in View of APA and in view of Sutherland (U.S. Pat. Pub. 2003/0177215).

Applicant respectfully overcomes all grounds of rejections for the reasons indicated herein below.

Traversal of Rejections 35 U.S.C. §112, second paragraph

Applicant has reviewed the claims in view of the Office Action and has made a number of amendments thereto to enhance compliance with 35 U.S.C. §112, second paragraph. Reconsideration and withdrawal of this ground of rejection is respectfully requested.

Traversal of Rejections 35 U.S.C. §112, first paragraph

Applicant respectfully requests withdrawal of the rejection under 35 U.S.C. §112, first paragraph, as Applicant's recitation in claim 3 about static bandwidth allocation is that the "first field storing static bandwidth allocation" does not require background information about static bandwidth information (Applicant is not claiming a type of static bandwidth allocation or claiming invention of bandwidth allocation, but rather is including this information in a data field), which is notoriously well-known in the art. Many Ethernet Passive Optical Networks under the IEEE standards utilize static bandwidth allocation for an OLT to communicate with ONUs. Static bandwidth allocation is well-known in the art as a method in which bandwidth is divided into various segments, the amount of bandwidth decided upon typically by the OLT in connection with OAM standards. Once set, the bandwidth remains statically assigned and is insensitive to the varying bandwidth needs of the various applications. Although an application may not be in use, the bandwidth allocated is typically unused. Applicant respectfully submits that static bandwidth allocation is well-known, and that claims 3 and 8 are providing the allocation data in a data field. Reconsideration and withdrawal of this ground of rejection are respectfully requested.

Traversal of Rejections 35 U.S.C. §103(a)

It is alleged in the Office Action that Gaglianella substantially teaches auto discovery by OLT capabilities of multiple ONUs connected to an OLT in a PON network.

However, the presently claimed invention provides a method for transmission

discovery in an Ethernet Passive Optical network that determines the function from a corresponding OAM message between the OLT and ONU before transmitting the OAM control message, by the OLT sending the OAM capability information request and then receiving the response message from the ONU to discover the functional capability of the ONU before transmitting the OAM control message. Therefore, the present invention enables the OLT to confirm which OAM function is defined in the ONU before performing the real OAM functions so that the OAM capabilities defined by different vendors smoothly cooperate with each other.

In contrast to the present claims, the combination of Gaglianello and the APA fails to disclose or suggest any of the present claims because Gaglianello schematically shows a procedure whereby the OLT discovers the corresponding ONU's connected to the OLT. However, Gaglianello (in combination with the APA) fails to disclose any of the features recited by present claims 1 and 4, and in particular is silent with regard to features related to the OAM of the present claims.

In addition, the combination fails to disclose or suggest the claimed invention as Gaglianello fails to recognize any of the problems disclosed in the art disclosed by the Applicants as well as the solutions recited in the present claims. In the background description of the invention (APA) the OAM and EFM disclosed only define the basic function of the OAM in the standard, and does not disclose or suggest all the functions of OAM. Applicant respectfully submits that other functions of the OAM may be added by the vendor embodying the system and accordingly, it would be impossible to perform all of their respective functions if the functions of the respectively different OAMs are embodied when the OLT and the ONU developed by the respectively different vendors are operated. These items do not render any of the present claims obvious in view of the cited combination.

For at least the above reasons, none of the present claims would have been obvious to a person of ordinary skill in the art in view of the combination of Gaglianello and the APA.

To reject a claim under section 103, the United States Court of Appeals for the

Federal Circuit required a showing of an un rebutted prima facie case of obviousness (*In re Rouffet*, 149 F.3d 1350, 47 USPQ2d 1453 (Fed. Cir. 1998) (citing *In re Deuel*, 51 F.3d 1552, 1557, 34 USPQ2d 1210, 1214 (Fed. Cir. 1995))). According to United States Court of Customs and Patent Appeals, the predecessor to the Federal Circuit, the *prima facie* case can be established only if the prior art references, among others, teach all features in the claims (*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1970); see also **MPEP 2143.03**). Nor do claims 1 and 4 recite features, as combined in the claims, that would have been within the ordinary skill in the art (*KSR International Co. v. Teleflex Inc. et al.*, No. 04-1350, U.S. Supreme Court, decided April 30, 2007).

In accordance with the above, Applicant respectfully submits that a person of ordinary skill in the art would not have found either of claims 1 or 4 to have been obvious at the time of invention in view of Gaglianello, alone, and/or in combination with the APA and/or Sutherland.

Other claims in this application that are dependent on one of independent claims 1 or 4 are believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of the patentability of each on its own merits is respectfully requested. For example, claims 3 and 8, which depend respectively from claims 1 and 4, recite in part that each of at least the first and second OAM capability information messages comprises a data field including a first field and a second field, which are added to a general structure of an OAM state PDU (packet data unit) data field, the first field storing static allocated bandwidth information in order to transmit the OAM capability when the OAM capability discovery operation is performed, and the second field storing information on a network topology.

In contrast, Gaglianello, alone, and/or in combination with the APA, fails to disclose at least first and second OAM capability information messages comprising a data field added to the general structure of a packet data unit to indicate OAM capabilities. Nor would a person of ordinary skill in the art, in view of Gaglianello and APA, have found either of claims 3 or 8 obvious at least for this reason.

In view of the above, Applicant respectfully submits that the addition of Sutherland the combination of Gaglianello and the APA still fails as a combination to disclose or suggest any of the present claims.

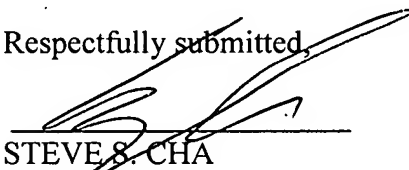
Reconsideration and withdrawal of all grounds of rejection under 35 U.S.C. §103(a) are respectfully requested.

For all the foregoing reasons, Applicant respectfully submits that all grounds of rejection in the Office Action have been overcome. A Notice of Allowance is respectfully requested.

Should the Examiner deem that there are any issues which may be best resolved by telephone, please contact Applicant's undersigned representative at the number listed below.

No additional fee is believed to be necessitated by the foregoing amendments. However, should this be erroneous, authorization is hereby given to charge Deposit Account No. 502-470 for any underpayment, or credit any overages.

Respectfully submitted,



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Enclosures:
Replacement Sheet for FIG. 6,
Appendix A

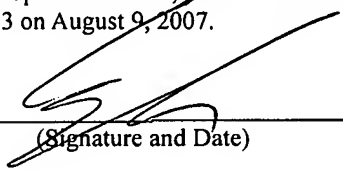
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Date: August 9, 2007

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(Name of Registered Rep.)


(Signature and Date)